

## IN THE CLAIMS

Please cancel Claims 1, 4, 8, 55 and 57, without prejudice, and add new Claims 112-116 as follows:

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1. (Canceled) A method for determining susceptibility for an HCV anti-viral drug comprising:
    - (a) culturing a host cell in the presence of the anti-hepatitis C virus drug, wherein the host cell has introduced thereto a resistance test vector comprising (i) a patient-derived segment comprising a hepatitis C virus gene and (ii) an indicator gene, wherein the expression of the indicator gene is dependent upon the patient- derived segment;
    - (b) measuring the expression of the indicator gene in the host cell from step (a) and;
    - (c) comparing the expression of the indicator gene as measured in step (b) with the expression of the indicator gene measured in the host cell of step (a) cultured in the absence of the anti-hepatitis C virus drug, whereby greater expression of the indicator gene measured in step (c) relative to that measured in step (b) indicates susceptibility of hepatitis C viral replication to the anti-hepatitis C virus drug.
  4. (Canceled) The method of claim 1 wherein the resistance test vector comprises genes encoding C, E1, E2, NS2, NS3, NS4, or NS5.
  8. (Canceled) The method of claim 1, wherein the patient-derived segment comprises a viral sequence comprises an internal ribosome entry site.
  55. (Canceled) A method for determining anti-hepatitis C virus drug resistance in a patient comprising:
    - (a) developing a standard curve of drug susceptibility for an anti-hepatitis virus drug;
    - (b) determining the susceptibility to the anti-hepatitis C virus drug in the patient according to the method of claim 1, and
    - (c) comparing the anti-hepatitis C virus drug susceptibility determined in step (b) with the standard curve of step (a), whereby anti-hepatitis C drug

susceptibility which is decreased relative to that shown by the standard curve indicates anti-hepatitis C drug resistance in the patient.

57. (Canceled) A method for determining anti-hepatitis C virus drug resistance in a patient comprising:

- G1
- (a) determining in the patient the susceptibility to an anti-hepatitis C virus drug at a first time point according to the method of claim 1, wherein the patient-derived segment is obtained from the patient at about the same time as the first time point;
  - (b) determining in the patient the susceptibility to the anti-hepatitis C virus drug at a second time point; and
  - (c) comparing the anti-hepatitis C virus drug susceptibilities determined in steps (a) and (b), wherein a decrease in anti-hepatitis C drug susceptibility at the second time point relative to that of the first time point indicates anti-hepatitis C virus drug resistance in the patient.
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112. (New) A method of determining susceptibility of a HCV (hepatitis C virus) viral population in a patient for an HCV anti-viral drug, comprising:

- G2
- (a) culturing host cells in the presence of the HCV anti-viral drug, wherein the host cells have introduced thereto resistance test vectors comprising: (1) a patient-derived segment that comprises a HCV gene, and (2) an indicator gene, wherein the expression of the indicator gene is dependent upon the patient-derived segment;
  - (b) measuring the expression of the indicator genes in the host cells; and
  - (c) comparing the expression of the indicator genes measured in (b) to the expression of indicator genes measured in corresponding host cells, cultured in the absence of the HCV anti-viral drug, having introduced thereto corresponding resistance test vectors comprising: (1) a patient-derived segment that comprises a HCV gene, and (2) an indicator gene, wherein the expression of the indicator gene is dependent upon the patient-derived segment,

wherein greater expression of the indicator genes in the absence of the HCV anti-viral drug relative to that measured in the presence of the HCV anti-viral drug indicates susceptibility of the viral population of the patient for the HCV anti-viral drug.

113. (New) The method of claim 112 wherein the resistance test vector comprises genes encoding C, E1, E2, NS2, NS3, NS4, or NS5.
114. (New) The method of claim 112, wherein the patient-derived segment comprises a viral sequence that comprises an internal ribosome entry site.
115. (New) A method of determining anti-HCV drug resistance of a HCV viral population in a patient, comprising:
- (a) determining susceptibility of the HCV viral population in the patient to said anti-HCV drug by:
    - (i) culturing host cells in the presence of said anti-HCV drug, wherein the host cells have introduced thereto resistance test vectors comprising:  
(1) a patient-derived segment that comprises a HCV gene, and (2) an indicator gene, wherein the expression of the indicator gene is dependent upon the patient-derived segment; and
    - (ii) measuring expression of the indicator genes in said host cells; and
  - (b) comparing the susceptibility of the HCV viral population in the patient to said anti-HCV drug determined in step (a) with a standard curve of drug susceptibility for the anti-HCV drug,
- wherein susceptibility which is decreased relative to that shown by the standard curve indicates anti-HCV drug resistance of the HCV viral population in the patient.
116. (New) A method of determining anti-HCV drug resistance of a HCV viral population in a patient, comprising:
- (a) determining susceptibility of the HCV viral population in the patient to said anti-HCV drug at a first time point by:
    - (i) culturing host cells in the presence of said anti-HCV drug, wherein the host cells have introduced thereto resistance test vectors comprising  
(1) a patient-derived segment that comprises a HCV gene, and (2) an indicator gene, wherein the expression of the indicator gene is dependent upon the patient-derived segment; and
    - (ii) measuring expression of the indicator genes in said host cells;
  - (b) determining, by the method of step (a), the susceptibility of the HCV viral population in the patient to said anti-HCV drug at a second time point; and

(c) comparing the susceptibility of the HCV viral population in the patient to said anti-HCV drug at the first time point and the susceptibility of the HCV viral population in the patient to said anti-HCV drug at the second time point, wherein a decrease in susceptibility to said anti-HCV drug at the second time point relative to that at the first time point indicates anti-HCV drug resistance of the HCV viral population in the patient.

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